

CLAIMS

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

- 5 1. An cardiovascular stent comprising:

 a first portion having at least a first degree of expandability; and

 a second portion having at least a second degree of expandability greater than
the first degree of expandability, said second longitudinal portion terminating in one end of
the stent, whereby said one end can be expanded beyond said first longitudinal portion.
- 10 2. A cardiovascular stent as defined in claim 1 wherein said stent comprises
struts, the length of the struts in the first portion differing from the length of the struts in the
second portion.
3. A method of treating a secondary cardiovascular vessel extending from a
primary cardiovascular vessel, said method comprising the steps of:
15 providing a stent having distal and proximal portions, the proximal portion
being more expandable than the distal portion;

 positioning the stent so that the distal portion of the stent is located in the
secondary vessel and the proximal portion of the stent is located in the primary vessel;

 expanding the distal portion of the stent to support the secondary vessel; and
20 expanding the proximal portion of the stent to form a flange engaging the
primary vessel.
4. A method as defined in claim 3 wherein said providing step includes
providing the stent with struts of varying length along the length of the stent.

5. A stent balloon comprising:
a distal portion having a first diameter when inflated; and
a proximal portion having a second diameter when inflated, the second diameter being greater than the first diameter, whereby said balloon is capable of expanding
5 a stent in which it is positioned to two different extents corresponding to the first and second diameters.

6. A stent balloon as defined in claim 5 wherein:
said distal portion is ovoid shaped; and
said proximal portion is bulbously shaped.

10 7. A method of treating a cardiovascular bifurcation including an inlet portion and two outlet portions meeting in a junction, said method comprising the steps of:

inserting a first stent in the inlet portion and one of the outlet portions on either side of the junction;

expanding the first stent to support the inlet portion and the one outlet portion;

15 inserting a second stent through a wall of the first stent so that (1) a distal portion of the second stent is located in the other outlet portion, and (2) a proximal portion of the second stent is located within the first stent;

expanding the distal portion of the second stent to support the other outlet portion; and

20 expanding the proximal portion of the second stent so that the proximal portion engages the inner wall of the first stent in a flange-like arrangement.

8. A method as defined in claim 7 wherein said inserting step includes inserting a stent having struts of varying length along the length of the stent..

9. An arterial stent comprising:
- an inlet portion;
 - first and second outlet portions in fluid communication with said inlet portion;
- and
- 5 said inlet portion and said first and second outlet portions fabricated as a single unitary piece, whereby said stent may be deployed in a cardiovascular bifurcation as a single, unitary piece supporting the inlet and both outlets of the bifurcation.